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The Resolution
of the First Bioclimatologic Conference organized by the
Biological Section of the Czechoslovak Academy of Sciences
on May the 19th - 20th 1955 at the J. E. Purkyne - Scientific
Workers House, Liblice.

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First of all the Bioclimatologic Conference had to gain a clear view of the bioclimatologic problems especially in three sections aiming at the practically important lines of Human activity e.g. the medical, agricultural, and forestal bioclimatology. Besides, the Conference had to settle the scientifically and economically most important actual tasks of these bioclimatologic sections and to do proposals ensuring the bioclimatologic research.

After principal reports having been heard to and the discussion about the bioclimatologic sections, the participants accepted and approved unanimously the following resolutions:

I. General decisions.

1/ It is proposed to establish a Society of Bioclimatologic Sciences with the Czech. Acad. of Sciences or perhaps a Bioclimatologic Section of a future Society of Meteorologic Sciences with the Czech. Acad. of Sc. and to settle this question by an agreement with the Meteorologic and Climatologic Commission of the Czech. Acad. of Sc. This Society or Section should associate scientific workers and prominent practitioners of all bioclimatic sections and promote the bioclimatology to the benefit of human health and economic progress of the agriculture and forestry.

2/ It is recommended to begin with organisatory preparations for the project of a Czechoslovak Institute of Artificial Climate according to the Soviet example. In order to get further informations, it is recommended to send two experts /a meteorologist and an architect / to Moscow-Ostankin. Far reaching importance of such an Institute for theoretic studies on the relations of the plant and animal biology to the atmospheric surroundings is pointed out. Before this project should get realized, it is recommended to patronise the establishing of smaller climatic equipments/ climatic chambers etc./ for studies of the medical bioclimatology and for studies of zoohygenics and physiology of plants.

To coordinate the activities of the Czech. Acad. of Sc., the Slovak Acad. of Sc. and the Czech Acad. of Agricultural Sciences, it is recommended to study particular questions in the respective Institutions.

3/ It is recommended to take care of the growth of meteorologic scientific cadres, need of which as permanent workers in the practical fields of medicine, agronomy and forestry is growing. The proper form should be to engage extern research students and to let them become acquainted with applied meteorology and climatology. The State Planning Office should get into touch with the Ministry of Education and Culture and the other convenient central authorities about this matter.

II. Section of the medical Bioclimatology.

1./ As to medical bioclimatology, the Conference is considering as the principal task to organize a planned research of the atmospheric conditions with the aim of using its results to the benefit of human health / the choice of optimally situated dwellings, the placing of factories and working places, the putting up of recreation and health districts, the utilisation of favourable meteorologic factors for improving the state of public health, and the searching for convenient methods of protection against unfavourable meteorologic influences.

As to the climatic treatment, it is necessary to establish on all watering-places without exception meteorologic stations of the Hydrometeorologic Institute, the attendance of which should be looked for by the Central Administration of the watering-places or by the Administration of the Revolutionary Trade Unions Movement-medical institutions. At the national watering-places and health-resorts the research must be completed by further measures as f.e. refrigeration, intensity of thermal and U.V.-radiation, atmospheric electricity, dust, air composition, etc. This research is practically important not only in the rational utilisation of medical climatic factors, but also as a base of further completing the watering- and climatic places, of planning ground relations, and of protection or improvement of climatic conditions.

2/ The Conference is pleading in favour of a Research Institute of Human Climatology to be founded for entire State purposes with the task of realising, organising, and coordinating systematic research on the field of meteoropathology and climatotherapy. Besides, the Slovak Acad. of Sc. should found a bioclimatologic laboratory in the Tatras Mountains, the health climate there being especially important. Suitable conditions for it are to be found at Vysné Hazy.

In order to study the biologic influence of synoptical events in the atmosphere, a close cooperation with the synoptical service of the Hydrometeorologic Institute is desirable.

3/ The Research of meteorologic elements and climate influence on human organism has to be based on precise physiologic methods resting on the principles of I.P. Pavlov. The respective conclusions must be tested on one hand experimentally, on the other with aid of applied statistics and the results are to be utilised especially in the preventive medicine.

This research is claiming a bioclimatic chamber and production env. development of perfect physical (Actinographs, U.V.-dosimeters, frigorimeters, dustmeters) and physiological apparatuses (Especially electric cutaneous thermometers, plethysmographs etc.). As long as our industry does not produce such apparatuses, they have to be imported.

4/ The Conference is claiming a punctual observance of legal prescriptions concerning the atmosphere protection and official instructions for industrial enterprises and installations as far as they are concerning the air cleanliness. Especially in the regulations regarding watering places and healthplaces and in the future law concerning these places there must be inserted strict rules protecting the air quality.

5/ In order to utilize properly the climatic factors in the therapeutic treatment at a watering-place the physicians ought to get additional training in special courses. The quality of surroundings being very important for the human health, the Conference finds it necessary for medicine students to be obligatory fully acquainted at least with the principles of bioclimatology.

6/ The Conference is proposing to establish a bioclimatologic laboratory on all faculties of medicine / on the balneologic institutes/ which should cooperate with the individual clinical working places and support the direct meteoropathological studies on the clinical patients.

III. Section of the Agricultural Bioclimatology.

As to the agricultural bioclimatology and microclimatology the conference dealt and discussed the question what direction our agricultural bioclimatology and microclimatology should proceed in order to perform its mission in construction of the socialistic agriculture. First of all, the conference took into account the problems of highest importance from the agricultural production point of view, the solution of which should increase and improve agricultural production. These problems should offer further scientific bases concerning the natural bioclimatic and microclimatic conditions for growth of plants in particular regions and localities and improving the productivity of domestic animals.

Keeping that in view, the Conference has determined the general lines of the future work in the field of the agrobioclimatology and microclimatology, and recommends as follows:

1/ The Czechoslovak Academy of Agricultural Sciences in cooperation with the Hydrometeorologic Institute should state the principles and methods of work in accordance with the bioclimatic character of particular Czechoslovak regions as to the agricultural plant production, and methods for determining areas of approximately same bioclimatic conditions.

2/ The Czechoslovak Academy of Agricultural Sciences in cooperation with the Hydrometeorologic Institute should state the principles of the bioclimatic classification of plots in the cadastral territories for the agricultural plant production - notably in connection with agricultural and technical arrangements and should fix the methods of this classification.

3/ To study the critical growing periods of different agricultural plants in different regions, that means under different natural conditions of vegetations, as one of presuppositions of the bioclimatic characterisation of the region from the agricultural plant production point of view. The planning of sowing systems of particular plants / flax etc. / has however to take into account the optimum climatic conditions.

4/ To study systematically the water regime of agricultural plants in typical regions with regard to normal sowing systems and to study also the effect of agrotechnic measures on the water regime. It is further recommended to investigate the bioclimatic problems connected with technical ameliorations, notably with drainages and irrigations. In connection with these problems, it is recommended to investigate systematically the transpiration of principal agricultural plants under different climatic conditions and on different soils, and to find convenient methods for this purpose as well as research methods determining the complex value of the evapotranspiration. It is further necessary to pay attention to the study of overground - and soil dew as an important factor in the water balance of plants and in the propagation of some plant diseases.

5/ The phytopathologic research has to study also the relations between the weather conditions and the development of insect pests and plant diseases, notably with special regard to the prognosis problem of their start of occurrence and to organize the necessary prognostication service.

6/ To take increased care of systematic studies of the climate in the growth of agricultural plants under different conditions as complexes of overground- and soil climate. In connection with the principal problem as well as the photosynthesis studies, to investigate the problem of agricultural plants nutrition through atmospheric carbon / CO_2 assimilation / by regulating the plant microclimate with aid of protection against winds and by suitable land cultivation in the crops.

7/ To study with increased attention the air environment of protective closed / production rooms / glass houses / and storage places / cellars, store-pits etc. / for agricultural and foodstuff-industry products.

8/ To study the effects of physical and chemical elements of weather etc. of the stable climate / on the physiologic functions of animal organisms. In connection with this item, it is recommended to establish an Institute for artificial climate.

9/ The veterinary research should study the influence of weather changes / env. quality of the stable atmosphere / on the arising of diseases and decay of agricultural animals with aid of statistic methods and for that purpose to develop suitable bioclimatic methods on the base of collected meteorologic materials. To concentrate attention to the studying of stable climate from the standpoint of stable ventilation research with the purpose to compile the basic characteristics of hygienic conditions for convenient projects of new stable types in order to avoid economic losses caused by bad and unsuitable constructions and losses of the animal production.

10/ In order to carry out a more intensive research work on the above mentioned problems, it is recommended, after an agreement between the Czechoslovak Academy of Sciences and the Czechoslovak Academy of Agricultural Sciences is reached, to establish a special bioclimatologic working place which should be well equipped with working staff and materials.

11/ The agriculture is interested in the appointment of regional climatologists at Regional National Committee / regional administration/. Their task is to find the conditions of a suitable agricultural production in relation to the climatic situation.

12/ The realization of all these measures and investigations should be in the hands of the Czechoslovak Academy of Sciences, Slovak Academy of Sciences and Czechoslovak Academy of Agricultural Sciences; especially on the base of an agreement about establishing new working places for special agrobioclimatologic tasks, or by distributing the actual problems between the hitherto existing working places of the mentioned Academies and the Hydrometeorologic Institute.

IV. Section of the Forest Bioclimatology.

Scientific recording and organising of the research of bioclimatic relations and effects in forests and forestry, notably with regard to the silviculture and forest protection, can contribute in a high degree to the maintaining and increasing of production of our heavily damaged forests and even the other functions of forests which are important from the national standpoint, and are secured in this way. For that reason the Conference recommends:

1/ To establish a scientific centre of forest meteorology and climatology on agreement with the Czechoslovak Academy of Sciences Ministry of Agriculture and Forestry, Czechoslovak Academy of Agricultural Sciences and Forestry Research Institute at Zbraslav II. Strnady; the organization of this centre should correspond with the national requirements. The centre should develop a allround theoretical and practical research, to study and develop the observation methods and equipments to solve with its concentrated human and material forces / which hitherto have been uneconomically dispersed / the main problems of the practice, particularly in connection with the important problems of reforestation of the large devastated areas and sparse stands, problems of changes, insect and wind calamities, weathered problems etc. and to recommend convenient methods of accompanying observation.

2/ The Hydrometeorologic Institute and the Ministry of Agriculture and Forestry may get into touch and agree about a possible completing of the national network of meteorologic and precipitation stations in forest areas, where this system is incomplete.

3/ To discuss thoroughly the organization and duties of the forest meteorologic service on a conference consisting of specialists authorized by the Ministry of Agriculture and Forestry, Czechoslovak Academy of Sciences, Agricultural and Hydrometeorologic Institute notably with regard to the explanation of the aims and methods of observations.

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